

Title (en)
VERTICAL AXIS WIND TURBINES

Title (de)
WINDTURBINEN MIT VERTIKALER ACHSE

Title (fr)
ÉOLIENNES À AXE VERTICAL

Publication
EP 3899242 A1 20211027 (EN)

Application
EP 19900417 A 20191219

Priority
• US 201862782104 P 20181219
• US 201916718308 A 20191218
• US 2019067434 W 20191219

Abstract (en)
[origin: US2020200143A1] A vertical axis wind energy power turbine having a hollow shaft on which are attached, rotating and fixed components with outer-surface shapes, fixed vanes, and integral heating to concentrate without confining airflow, an overspin-limiting power-enhancing self-engaging flywheel, and, conversion systems for both, pumped air that may be transferred through hollow mountings to do other work, and, for electricity generation.

IPC 8 full level
F03D 1/00 (2006.01); **F03D 1/04** (2006.01); **F03D 3/00** (2006.01); **F03D 3/04** (2006.01); **F03D 7/06** (2006.01); **F03D 9/25** (2016.01)

CPC (source: EP US)
B60B 39/00 (2013.01 - US); **B60B 39/12** (2013.01 - US); **F03D 1/04** (2013.01 - US); **F03D 1/0625** (2023.08 - US); **F03D 3/04** (2013.01 - EP); **F03D 9/25** (2016.05 - US); **F03D 9/37** (2016.05 - EP); **F05B 2220/706** (2013.01 - EP US); **F05B 2240/133** (2013.01 - EP US); **F05B 2240/912** (2013.01 - US); **F05B 2260/20** (2013.01 - US); **F05B 2260/421** (2013.01 - EP US); **F05B 2260/96** (2013.01 - US); **Y02E 10/72** (2013.01 - EP); **Y02E 10/728** (2013.01 - EP); **Y02P 70/50** (2015.11 - EP)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
US 11236721 B2 20220201; **US 2020200143 A1 20200625**; CA 3109221 A1 20200625; EP 3899242 A1 20211027; EP 3899242 A4 20220907; US 2021197617 A1 20210701; WO 2020131156 A1 20200625; WO 2020132219 A1 20200625

DOCDB simple family (application)
US 201916718308 A 20191218; CA 3109221 A 20190517; EP 19900417 A 20191219; US 2019032902 W 20190517; US 2019067434 W 20191219; US 201917055676 A 20190517